

## **WINDSTREAM BROADBAND NETWORK STATEMENT**

Windstream maintains an open Internet for its customers, and with this principle in mind, this document summarizes Windstream's network management practices and the performance characteristics and commercial terms of the broadband Internet access services that it offers to residential, small business, school, and library customers.

### **NETWORK PRACTICES**

Windstream manages its network with one goal: to deliver the best possible broadband Internet experience to all of its customers. High-speed bandwidth and network resources are not unlimited, and are particularly costly to deploy in the less densely populated rural areas that characterize much of Windstream's residential service area. Managing the network is essential to promote the use and enjoyment of the Internet by all of Windstream's customers. Windstream reserves the right to employ reasonable tailored Internet Protocol ("IP") network management practices that are consistent with industry standards for such networks. Such practices would ensure that all customers and application providers have access to a fair share of Windstream's network while not unreasonably discriminating in transmitting lawful broadband traffic. Windstream also tries to use tools and technologies that are minimally intrusive. Just as the Internet continues to change and evolve, so too will Windstream's network management practices adapt to address the challenges and threats on the Internet. By engaging in reasonable and responsible network management, Windstream can deliver the best possible broadband Internet experience to all of its customers.

As technologies and customer needs evolve over time, Windstream may conduct trials of very limited geographic scope to explore new approaches toward network management. Such approaches may include offering tiers of service with different usage caps, assessing fees for exceeding such caps, adopting network management practices that are responsive to the degree to which certain traffic is sensitive to congestion, or a combination of these approaches. Windstream will provide appropriate notice to all affected customers prior to making any such changes as a part of a trial.

So long as traffic is not malicious or harmful to its network, Windstream does not block certain applications or classes of applications sourced from, or destined to, the public Internet. Rather, Windstream strives to provide the best customer experience for all types of applications.

### **Device Attachment Rules**

Windstream permits its customers to attach any device to its network, so long as the device's usage does not harm Windstream's network or otherwise violate Windstream's Acceptable Use Policy which can be found at <http://www2.windstream.net/customersupport/usersguide/accept/accept.html>. Not all such devices, however, may be technically compatible with Windstream's network. The technical compatibility of a device will vary depending on the broadband Internet access service to which it is being attached.

Windstream operates a Security Operations Center that monitors its network for abuse and fraud. When Windstream determines the presence of suspicious, malicious, criminal, or abusive traffic, or other activity that violates Windstream's Acceptable Use Policy, Windstream temporarily may block access from or to its network to protect the security of its network and its customers. This measure may be triggered by, among other conditions, a denial-of-service (DoS) attack or by Windstream detecting an unusual amount of traffic that may be related to computers infected with malicious software viruses. If a customer believes that Windstream is blocking such traffic in error, the customer should contact Windstream's Internet customer support at (866) 445-0978.

## **PERFORMANCE CHARACTERISTICS**

### **Service Description**

Windstream offers broadband Internet access services to its residential, small business, school, and library customers over various technologies throughout its footprint. These technologies include digital subscriber line service (variants of ADSL, IDSL, and VDSL), cable modem service (DOCSIS), dedicated circuits (T1s), Fiber-to-the-Home Passive Optical Network (PON), and Metro Ethernet (via various methods and standards). The availability of these specific technologies varies by market.

Windstream's broadband Internet access speeds vary by customer location. Windstream strives to provision a customer's connection up to the maximum advertised speed, but actual speed experienced by the customer will vary based on multiple factors, such as the condition of wiring inside a specific location or the electromagnetic interference on the customer's line; general Internet backbone configurations and computer configuration; network or Internet congestion; and the server speeds of websites accessed. These variables can cause broadband Internet access service to perform at less than maximum advertised speeds. Windstream does not and cannot guarantee speeds.

Windstream participated in the FCC's Measuring Broadband America program, which measured the broadband Internet access service speeds that Windstream customers experienced on an average basis during the month of September 2015. The FCC testing program, which focused on residential DSL customers, found that Windstream's network provided weighted median download speeds equal to approximately 97% of the advertised download speeds during off-peak periods (all periods except 7 pm to 11 pm, Monday through Friday), and 92% of the advertised download speeds during peak periods (between 7 pm and 11 pm, Monday through Friday). In addition, the FCC program reported that Windstream's network provided weighted median upload speeds at levels equal to approximately 81% of the advertised upload speeds during off-peak periods and at 80% of the advertised upload speeds during peak periods. According to the FCC study, latency on the Windstream network, which is a measure of the time it takes for data to travel to a point on the Internet and back again, was a weighted median of 37.6 milliseconds during off-peak periods and 47.4 milliseconds during peak periods. According to the FCC study, packet loss on the Windstream network, which occurs when one or more packets of data travelling across a network fail(s) to reach its/their destination, was approximately .5%. Windstream offers a number of DSL speed tiers, and the FCC's Measuring Broadband America

program did not cover all of the offered tiers. However, Windstream is currently developing a mechanism to provide data based on a larger sample size for each DSL speed tier and will provide applicable updates to this Statement as they become available. Windstream is providing these FCC test results for informational purposes only. Windstream does not adopt the findings of, or the testing methodologies employed by the FCC program; make any warranties or representations as to the accuracy or completeness of this information; or guarantee that the speeds actually experienced by customers will match the percentages reported in the program at any given time.

Windstream utilized consumer speed test data from individual customers, located within one of Windstream's most populated network areas, with varying speed tier service packages to provide an illustration of expected fiber broadband performance as it relates to advertised performance. The data for an expected 24 Mbps fiber connection showed a download speed of 28.56 Mbps, upload speed of 4 Mbps, latency of 12 milliseconds, and 0% packet loss; the data for an expected 100 Mbps fiber connection showed a download speed of 95.73 Mbps, upload speed of 7.9 Mbps, latency of 12 milliseconds, and 0% packet loss; the data for an expected 1 Gbps fiber connection showed a download speed of 938.26 Mbps, upload speed of 942.88 Mbps, latency of 11 milliseconds, and 0% packet loss. These speed test results may not necessarily reflect the results of other customers, and the actual results you experience may vary. Windstream is currently developing a mechanism to provide data based on a larger sample size for each fiber speed tier. Applicable updates to this Statement will be provided as they become available.

### **Impact of Specialized Services**

Windstream offers broadband Internet access service over the same last-mile facilities as specialized services, such as virtual private network ("VPN"), voice over IP ("VoIP") and, to a small number of customers, video service. In most cases, when the specialized service is not being used, customers may use the capacity that would otherwise be used for the specialized service for broadband Internet access. When these customers do utilize the special services, less bandwidth will be available for broadband Internet access service than when they are not using the specialized services. Details regarding this sharing of capacity is disclosed to these customers at the point of sale.

### **Quality of Service ("QoS") Products**

Windstream offers broadband Internet service to business customers that includes quality of service management that provides such customers the opportunity to specify the priority of certain subsets of their traffic with respect to other subsets of their traffic.

## **COMMERCIAL TERMS**

### **Pricing**

Pricing for Windstream's small business broadband Internet access services can be found at <http://www.windstreambusiness.com/small-business/internet>, while pricing for Windstream's large business broadband Internet access services is on a quote basis through

<http://www.windstreambusiness.com>. Pricing for Windstream's residential broadband Internet access services can be found at <http://www.windstream.com> through the links for Residential High-Speed Internet. Any applicable early termination fees are described in the broadband Internet access service offer and Windstream's online Terms and Conditions which can be found at <http://www.windstream.com/terms.aspx>.

## **Privacy Policies**

Windstream's network management practices are designed to provide the best possible online experience to its customers. To that end, Windstream monitors traffic flows between points within its network and between its network and locations on the Internet for purposes of providing security for its customers, planning for future needs, and ensuring that its network runs efficiently. Monitored information includes the amount of data sent to and from your connection, the source and destination of the data, and the type, but not the contents, of information sent and received. In limited circumstances, Windstream may also look into the contents of the information to determine whether it is malicious in nature (such as a virus, spam, worm, etc.) or when required by law to comply with judicial orders or regulations. Windstream's Privacy Policy, which can be found at <http://www.windstream.com/privacy.aspx>, provides details on how Windstream protects its customers' Personally Identifiable Information ("PII") from inappropriate use.

## **QUESTIONS AND CONCERNS**

Customers with questions or experiencing broadband Internet access service problems may contact Windstream's Internet customer support at (866) 445-0978. The center is open on a 24 x 7 basis. Internet edge providers may email complaints, questions, security concerns, and reports of Internet abuse to [abuse@windstream.net](mailto:abuse@windstream.net).

## **UPDATES**

Windstream reserves the right to update this Broadband Network Statement and will do so as circumstances warrant.